

Claims

1. Apparatus, comprising:
a cylindrical body having an opening at one end through which a fluid storage tube is insertable and a neck that has an elongate needle cover integrally extending therefrom, said cover being integrally joined to said neck at a weakened joint, finger grasp means coupled to said cover to enable said cover to be readily separable from said neck at said weakened joint when a predetermined torque is applied to said finger grasp means to rotate said cover relative to said body, said neck having an aperture dimensioned to accept a needle hub.
2. Apparatus of claim 1, wherein said finger grasp means comprises a wing nut having a bore adapted to fit over the needle cover of said body at a portion of said cover, a plurality of slots formed lengthwise along the inner circumferential surface of said bore, each slot riding on a corresponding rib formed longitudinally along substantially the length of said needle cover.
3. Apparatus of claim 2, wherein each wing of said wing nut has a leg supported by an upper surface of a collar rotatably mounted to the neck of the body, said wing nut being fixedly secured to said needle cover, a housing extending from said collar and pivotable to a position in alignment along the longitudinal axis of said body.
4. Apparatus of claim 1, wherein said finger twist means comprises a wing nut integrally formed at a portion of said needle cover, each of the wings of said wing nut having a leg, the legs of said wings and a plurality of other legs extending downwards from said wing nut resting on an upper surface of a collar rotatably mounted to the neck of the body, a housing extending from said collar, said housing pivotable to a position in alignment along the longitudinal axis of said cylindrical body.

5. Apparatus of claim 1, wherein said neck comprises a first portion of a lock mechanism, and said needle hub comprises a second portion of said lock mechanism, wherein when said needle hub is inserted to said neck through said aperture, said first and second portions of said lock mechanism coact to fixedly maintain said needle assembly to said neck.
6. Apparatus of claim 1, wherein said needle hub is a part of a needle hub assembly comprising a base having a double ended needle extending therethrough, said needle hub including a proximal section having at least one catch and a distal section that is dimensioned to extend from a distal end of said neck when said needle hub is fully inserted to said aperture, said catch snappingly latching to a side orifice at said neck when said assembly is fully inserted to said aperture.
7. Apparatus of claim 1, wherein said weakened joint integrally joining said needle cover to said neck of said body is manufactured to withstand up to approximately 60 ounce inches of torque before breaking; and wherein said needle cover, once separated from said neck at said joint, is not attachable back to said neck.
8. Apparatus of claim 1, wherein said needle cover is separable from said body when said predetermined torque applied to said finger grasp means is less than approximately 60 ounce inches.
9. Apparatus of claim 1, wherein said needle hub is a part of a needle hub assembly comprising a double ended needle, and wherein once said needle cover is separated from said neck at said joint to expose an end of said needle extending from said needle hub, a needle protection housing pivotally connected to a collar

rotatably mounted to said neck is movable to cover said end of said needle to thereby prevent said end of said needle from being further exposed.

10. Apparatus of claim 1, wherein said finger grasp means comprises at least one wing integrally extending transversely from said needle cover.

11. A needle holder assembly, comprising:

a cylindrical body having

an opening at one end through which a fluid storage tube is insertable,

a neck having one lock mechanism formed transverse to a side thereof,

an elongate cover integrally extending from said neck and joined to said neck at a weakened joint, and

finger grasp means fixedly mounted to a portion of said elongate cover, said finger grasp means having at least one wing extending away from said elongate cover;

a needle hub assembly having

a proximal section and a distal section,

a double ended needle extending through said distal and proximal sections, and

an other lock mechanism formed at the outer surface of said proximal section;

wherein said needle hub assembly is fixedly fitted within said body with at least said proximal section fitted within said neck and said one and other lock mechanisms in a locking relationship; and

wherein said cover is separable from said neck at said weakened joint when a predetermined torque is applied to said wing relative to either said body or said neck.

12. Needle holder assembly of claim 11, further comprising:
 - a collar rotatably mounted about said neck;
 - a housing hingedly attached to said collar and rotatable about said neck;wherein after said cover is separated from said neck, said housing is pivotable to a position in substantial alignment with the one end of said double ended needle extending from said distal section of said needle hub assembly for covering said one end of said double ended needle.
13. Needle holder assembly of claim 11, wherein said housing comprises at least one hook mechanism for fixedly grasping and maintaining said one end of said double ended needle within said housing when said housing is pivoted to cover said one end of said double ended needle.
14. Needle holder of claim 11, wherein said finger grasp means comprises a ring having a plurality of wings extending away from the outer wall of said ring, said wings each having a lower leg that rests on an upper surface of said collar, said ring including a plurality of slots along its inner wall that guidedly fit to corresponding ribs extending longitudinally along the length of said needle cover when said ring is fitted to said needle cover, said ring further having a plurality of extensions at its inner wall in contact with said needle cover.
15. Needle holder assembly of claim 11, wherein said one lock mechanism comprises a pair of orifices formed transversely at opposite sides of said neck and wherein said other lock mechanism comprises a pair of catches formed at opposite sides of the outer surface of said proximal section, each of said catches latching onto a corresponding one of said orifices when said needle hub assembly is inserted to said body and said proximal section is press fitted to said neck; and

wherein said neck has an aperture dimensioned to accept said proximal section and at least a portion of said distal section of said needle hub assembly.

16. Needle holder assembly of claim 11, wherein said weakened joint integrally joining said needle cover to said neck of said body is manufactured to withstand up to approximately 60 ounce inches of torque before breaking; and wherein said needle cover, once separated from said neck at said joint, is not attachable back to said neck.

17. Needle holder assembly of claim 11, wherein said finger grasp means is integral to said cover.


18. A one piece molded needle holder, comprising: a cylindrical body having a cavity and an opening at one end through which a fluid storage tube is insertable to said cavity, said body ending with a neck having at least one orifice formed transverse to a side thereof, said neck having an aperture smaller in dimension than said cavity, a needle cover integrally joined to and extending from the end of said neck away from said body, a notch formed circumferentially about the junction where said neck is joined to said cover to effect a weakened joint, finger grasp means coupled to said needle cover to enable a user to twist off said needle cover from said neck by applying a predetermined torque thereto.

19. Needle holder of claim 18, wherein said neck comprises a pair of orifices formed at opposite sides thereof, said needle holder further comprising a collar having a housing pivotably attached thereto rotatably mounted about said neck, said housing pivotable to a position in alignment along the longitudinal axis of said holder for covering a needle extending from a needle assembly mated to said neck, a hook

integral in said housing fixedly holding said needle once said housing is pivoted to said alignment position.

20. Needle holder of claim 18, wherein said finger grasp means comprises a wing nut, and said needle cover is separable from said body when said predetermined torque applied to said wing nut is less than approximately 60 ounce inches; and wherein said needle cover, once separated from said neck at said joint, is not attachable back to said neck.

21. A one piece molded needle hub assembly to be used with the molded needle holder of claim 18, comprising: a proximal section and a distal section, said proximal section dimensioned to fit to the aperture of the neck of said holder, a double ended needle extending through said distal and proximal sections, a pair of catches formed at opposite sides of the outer circumference of said proximal section, and a through slot formed in said proximal section behind each of said catches to enable flexible movements of said catch transversely to said proximal section.

22. A method of manufacturing a needle holder, comprising the steps of: 

- a) forming a cylindrical body having an opening at one end through which a fluid storage tube is insertable into the cavity of said body;
- b) forming a neck integral to said body having an aperture smaller in diameter than said opening of said body;
- c) forming at least one orifice transverse to a side of said neck for accepting a catch from a needle hub to be inserted into said neck;
- d) extending an elongate needle cover integrally from said neck; and
- e) coupling a finger grasp means to said needle cover.

23. Method of claim 22, wherein said finger grasp means comprises a wing nut, said method further comprising the step of:

notching or thinning the junction where said needle cover is integrally extended from said neck so that a given torque applied to said wing nut relative to either said neck or said body will separate said needle cover from said neck.

24. A method of manufacturing a needle holder, comprising the steps of:

a) forming a cylindrical body having an opening at one end through which a fluid storage tube is insertable into the cavity of said body;

b) forming a neck integral to said body having an aperture smaller in diameter than said opening of said body;

c) forming one lock mechanism transverse to a side of said neck;

d) extending an elongate needle cover integrally from said neck;

e) coupling a finger grasp means to said needle cover;

f) forming a needle hub assembly about a double ended needle with one end of said needle extending from its distal end and an other end of said needle extending from its proximal end;

g) forming an other lock mechanism at said needle hub assembly;

h) inserting said needle hub to the cavity of said body through said opening of said body; and

i) press fitting said needle hub to said aperture of said neck until said one and other lock mechanisms coact to fixedly hold said needle hub to said neck with said one needle end extending from said needle hub into said needle cover and said other needle end extending from said needle hub into the cavity of said body where said fluid storage tube is to be inserted.

25. Method of claim 24, wherein said finger grasp means comprises a wing nut, said method further comprising the step of:

notching or thinning the junction where said needle cover is integrally joined to said neck so that a torque of less than approximately 60 ounce inches or greater applied to said wing nut relative to either said neck or said body will separate said needle cover from said neck.

26. Method of claim 24, wherein said step c comprises the step of forming a pair of orifices at opposite sides of said neck, and wherein said step g comprises the step of forming a pair of catches at opposite sides of said needle hub; wherein said step e further comprises the step of press fitting said needle hub into said aperture of said neck until said catches each latch onto a corresponding one of said orifices to fixedly retain said needle hub to said neck.

27. Method of claim 24, wherein said step e comprises integrally forming said finger grasp means and said cover, said finger grasp means being a wing nut.